

**VERSATILE SYSTEM FOR ELECTROSTATIC DISCHARGE PROTECTION  
UTLIZING SILICON CONTROLLED RECTIFIER**

**ABSTRACT**

The present invention provides a system for electrostatic discharge protection in a  
5 semiconductor device, utilizing a silicon-controlled rectifier (502). The system includes the  
silicon controlled rectifier, which has a first p-type region (508) coupled to a voltage node  
(504), a first n-type region (512) having a first side adjoining the first p-type region, a second  
p-type region (510) having a first side adjoining a second side of the first n-type region, and a  
second n-type region (514) having a first side adjoining a second side of the second p-type  
10 region. A clamping structure (506) is intercoupled between the second n-type region and  
ground, to prevent the junction between the second p-type region and the second n-type  
region from retaining a forward bias. A switching structure (518) is intercoupled between  
the second p-type region and ground to ground the second p-type region during normal  
operation of the semiconductor device.